CRYPTO ASSET & ICO GOVERNANCE, RISK MANAGEMENT & COMPLIANCE

Concise Guidebook for Financial and Legal Service Providers to The Emerging Crypto Asset Class

Charles A. Christofilis, Esq.

Crypto Asset & ICO Governance, Risk Management & Compliance

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FOREWORD

In 1439 a European Goldsmith created an invention that would change the course of history. The machine was hand powered and extremely primitive by industrial standards, and yet it has been credited for the industrial revolution itself and continues to this day to have a very profound impact on virtually everyone's life. Blockchain technology should have no less of a disruptive impact.

The first time I worked with blockchain technology, I understood immediately that this thing was real and was going to be a game changer. The clearance and settlement of a typical securities transaction still takes days. I worked for several years at the largest securities clearing firm in the world out of law school, and had first-hand experience with the ancient technology and inefficiencies of the current back office and operational infrastructure in the securities industry. We know that all centrally planned and controlled systems eventually fail, and the more complex they are the more catastrophic the failure. The decentralized nature of the blockchain makes it more effective, efficient and fault tolerant. As a finance person who also happens to be a lawyer, and aside from the legal aspects, I view the blockchain and Initial Coin Offerings (“ICOs”) as a great evolution in the financial services industry and one that could potentially unleash free market capitalism as never before and create global financial inclusion.

The impact of global financial inclusion should not be underestimated, this may have more of an impact than anything else that ever occurred throughout human history except for the expansion of literacy.

In the same way that cell phones and solar panels have allowed people in underdeveloped economies to skip steps to modern globalism, blockchain has use cases such as voting, legal records and land title recording that will have the ability to empower individuals at the expense of controlling and oppressive governments. Free market capitalism has proven to be the best path to prosperity, and the blockchain and its applications empower individuals at the expense of central planners of government bureaucracies. The decentralization of computing power, like the expansion of literacy, will create economic abundance that will impact everyone on a very individual level. Global financial inclusion will create not only a future of economic abundance that we can't even imagine, but an entire new world order of individual empowerment and a new world of possibilities.

There's a misconception by some that Crypto Currencies ("Crypto") is an unregulated activity and nothing could be further from the truth. It is regulated, so the real issue is just by whom and to what extent. Where Crypto is being used to disrupt traditional industries and businesses, the old rules still apply. Because blockchain is a decentralized, global technology not owned or controlled by any person, business or government, it is for all practical purposes already self-regulated to a great extent by the developers, users and community on a technical level. If government does nothing else, it ought to protect the rights and interests of the least of its citizens and so far, and this is what the United States Securities and Exchange Commission ("SEC") is doing in going after the most egregious cases of fraud in the ICO's space. That being said, in virtually all developed and free market economies there are vast bodies of law that apply to the underlying products or services, whether on or off the blockchain, and I think it might serve the industry better not to lose sight of this fact.

There appears to be a disconnect between both the understanding and knowledge of the regulators versus this technology, as well as between existing rules and regulations and the operational realities and potential of blockchain technology. For example, most of the primary US Securities Laws were written in the 1930s and 1940s, and even the more recent Rules and Regulations under these Laws regarding technology and storage assume ancient technology in use before the blockchain was created. There is also an understandable bias among many regulators, politicians and the major news media, because they fear change and things they do not understand. They wary of the space because of the history and presence of criminals and scam artists being early adopters of the technology. It will be up to business to make the regulators comfortable with how and why blockchain comports with the existing regulatory structure.

In terms of blockchain business or industry, it doesn't always make sense to use blockchain technology unless there is a need for benefits that the blockchain provides. The primary benefits of course are that it creates an unalterable audit trail, but this isn't always necessary or even practical. With respect to ICOs in particular, aside from the integrity of the team backing the project (the most important element), they should have a laser like focus on what they are trying to accomplish, and why. The fundamental viability of the project needs to have a sound foundation and add value. If a team trying to launch an ICO has clarity on what they are trying to accomplish and why, everything else will fall into place, whether the ICO is a currency, commodity, utility or security.

Over time (which could be quite an extended period of time), I would expect that legal and regulatory systems would adopt to both utilize and accommodate blockchain. There is already a trend well underway from principles-based systems to rules-based systems, and toward globalization. The rules that govern nature are universal, technological standards are increasingly global and I would expect that eventually financial regulations will be global in nature and will use and contemplate the use of blockchain. This will not happen immediately. Governments and regulators are always reactive, and in the US for example the regulators are intentionally trying to slow everything down because of a concern for the welfare of the investing public and by assuming that harm caused by the fraudsters that have gotten involved in crypto in the early stages will outweigh the advantages of the blockchain.

In terms of Corporate Governance, there have been start-ups in the space with corporate structure more global in nature and substantially similar to other multinational corporations in terms of legal, risk management, governance and compliance. Start-ups in the Crypto space are global organizations from inception. This is completely different from more traditional multinational corporations, which historically have an individual identity and are started in one very specific geographically defined location, and then expanded nationally and then internationally over decades. So, Crypto start-ups that start out as global, decentralized organization, can more easily adopt the legal, corporate and governance structure of more highly evolved multinational corporations.

Consequently, the challenge of continuously improving Legal Governance, Risk Management and Compliance ("LGRC") in the Crypto space is not that dissimilar to that of larger companies. Aside from meeting or exceeding the legal and regulatory requirements in every jurisdiction in which they operate, it is important for everyone to understand that LGRC is everyone's job. Everyone involved must understand what the applicable laws and the rules require, even if they are complex and counterintuitive. Self-regulation is a necessary ingredient. It's not binary, it's not analogous to writing a line or code that will either work or not. The legislatures and regulators who write and enforce these laws and regulations expect participants to abide by the spirit and intent of the laws purpose, not just to do the minimum possible to meet the technical requirements. As such, I think the best way for service providers in the space to help Crypto businesses navigate the legal requirements is primarily to educate the staff on their individual responsibility. That is why I wrote this book.

In terms of due diligence, again it is not any different in the Crypto space than more traditional industries or projects. You simply need to make sure that any project makes sense from a business perspective and is backed by people you can trust. In other words, does the utility or security token really utilize blockchain and does it address a valid business need. This is aside from whether it is properly registered or exempt from registration if it is a security token (it has to be). This is true whether analyzing a project for your company or investing in a token on an individual level. There are already numerous books and YouTube videos on this topic, but bottom line is that you have to look beyond the white paper. Putting blockchain aside, does the business model make sense if it is a security? Are the project leaders and advisory board people real, and is there a track record of their accomplishments on the internet? What's the monetary policy of the token and how much pre-mining was done? The bottom line is that it's the integrity of the team behind a project that is the best predictor of its success, irrespective of the technological breakthroughs, pedigree of the team or their previous accomplishments. Complete and full disclosure is paramount. Simply put, if something looks too good to be true, it probably is. I think it would serve anyone well to use a little bit of common sense and make diligent inquiry of those who you do business with.

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ABOUT THE AUTHOR

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CHAPTER 1

CRYPTO ASSET CLASS AND BLOCKCHAIN

The crypto asset class and the blockchain emerged around 2009 with the introduction of Bitcoin, and not without controversy. One of the first use cases of Bitcoin was for purchases and sales on the "Silk Road," on online marketplace with a reputation for dealing in narcotics, illegal weapons and even criminal services such as murder for hire. The concept and the Bitcoin currency itself has been labeled a "Ponzi Scheme" by numerous economists and has been outlawed entirely in several countries.

Nevertheless, numerous technology companies, financial institutions and governments are creating working groups and there is a growing consensus that the underlying blockchain of Bitcoin will transform industries.

Bitcoin's uses cryptography-based security, and the cryptography creates an algorithm or a mathematical formula that is represented in the form of a token. The token is not a physical coin, but rather a protocol or a representation of value. A token can be a currency token, a storage of value (as Bitcoin is), or something more multifaceted, such as a decentralized autonomous organization ("DAO") that's based on distributed ledger technology ("DLT").

It is done through a consensus distributed ledger where all of the transactions are continuously reconciled and squared up through a mathematical formula or cryptography. New coins in the ecosystem are created through a process called "mining," which ensures the integrity and stability of the system. The miner is the person who actually solves the mathematical puzzle and creates the nonce that seals the blockchain and creates the coin base for the next block in the blockchain.

Since it is a consensus system, there is no centralized exchange or single point of failure. This means that a person would have to control more than half of the computers in the system in order to gain control of or hack the blockchain itself. In other words, it's virtually impossible to hack this system. The internet runs on a protocol called "TCPIP," and similarly, the blockchain runs on a protocol that works anywhere and everywhere.

The current fiat or fractional reserve monetary system that we have has only been in operation for a couple hundred years. The blockchain and the new asset class is capable of involving utility tokens, currency tokens, commodity tokens, and even creating decentralized organizations. The use cases for blockchain are numerous and include voting, tracking supply chains and tracking logistics.

Blockchain was the first platform, but now there are many others, including Ethereum and Stellar. Surprisingly, the reaction of most traditional financial institutions is not to embrace or acknowledge how transformative and revolutionary this technology is, but rather to look down upon and speak poorly of it because they do not understand it. On a weekly basis, there are major negative news media stories about Bitcoin.

However, the bottom line is that a person does not have to understand how this technology works in order to use it. When I worked in the clearance and settlement division of one of the largest brokerage firms in the world, I had to learn the settlement and clearing process for securities transactions but the vast majority of stock brokers, financial analysts, investment bankers and government regulators do not actually know and/or understand how a securities transaction is cleared and settled. In the same way, people get driver's licenses and get into their cars to drive to work every day without an understanding of how an internal combustion engine works. Anyone can become involved with and use blockchain technology without having to understand how it works. In other words, the fact that people might not understand the technical nuances of the technology doesn't mean that they can't use it.

The Current System and Fractional Reserve Banking

Many books have been written about the history of money and fractional reserve banking. There's a certain a certain suspicion in the Crypto community against fiat and central banks, which I think is misplaced. The United States economy, in particular, has benefitted substantially through the Federal Reserve Bank of the United States, and the U.S Dollar's role as the world's reserve currency. Nevertheless, one of the main advantages of the Federal Reserve Bank is also one of the the main disadvantages, and that is that it is an independent bank. Most countries have independent central banks that aren't owned or controlled by the government, which disallows the government from using the monetary system for political purposes. However, the independent nature of the bank also creates a conflict in that there is centralized control and planning of the money supply by the central bank, and by extension the banks that own the central banks, and therefore the allocation credit by central planners rather than by free market forces.

Although the securities markets are regulated by an agency of the government, they also can be said to have a central planning authority. The SEC decides who can be a stockbroker, which companies can issue securities (and how, when, and where they're going to issue securities), and who can be established as an exchange or as an alternative trading system. Based on my history in the clearance and settlement department of a large securities firm, I can say that the clearance and settlement process is outdated. Even with The Depository Trust Company ("DTC"), which is focused on the dematerialization of what used to literally be physical paper certificates, stock certificates and bonds, the technology is basically from the 1970s and 80s. Also, as can be seen by the recent decline in the number of IPOs (and the investment performance of recent IPOs which are few and far between), the system is no longer as functional in this age of modern technology.

Esoteric markets involving fixed income or corporate bonds have even more risk. Approximately 180 of 200 countries in the world with their own currencies, there is no central authority or planning for foreign currency exchange, or FX. When dealing with FX (which is similar to dealing with Bitcoin and Ethereum), you're dealing with counter-party risks. The same is true in the field of derivatives involving currency swaps, interest rate swaps and variations of those activities. Certain jurisdictions have capital requirements and regulations that govern the retain use of FX, but at the end of the day, every time you do any of these types of transactions, you are exposing yourself to counter-party risk. There is great interdependence among these counter-parties. Needless to say, these counterparties know each other to be financially responsible entities, but given the increasing complexity and interdependence of the counterparties traditional measures of risk such as "Value At Risk" are failing their essential purpose.

Despite the fact that the US and EU have established centralized clearing houses, the whole system has come close to failing, as we saw in 2008. As a system becomes more complex, its failure will be more catastrophic. As financial services become more interconnected, the risk of the financial system collapse becomes greater. The blockchain and crypto assets create decentralized pools of liquidity that work anywhere at any time, as long as there is electricity and computers. Although there are certain regulations in certain jurisdictions, they are not subject to government control. This new system is not beholden to central planners, and that's really why the crypto asset class is a game-changer.

Satoshi Nakamoto and Mystery That Surrounds Development of Bitcoin

Satoshi Nakamoto may be a person or a group of people; no one knows for sure, but it doesn't matter. The TCPIP process works, and at the end of the day it doesn't really matter who invented it. The bottom line is that it's a computer protocol. There were a lot of whitepapers floating around during the financial crisis, one of which was from a decade earlier from the The US National Security Agency ("NSA") called "How To Make A Mint: The Cryptography Of Anonymous Electronic Cash", by Laurie Law, Susan Sabett and Jerry Solinas of the NSA's Office of Information Security Research and Technology Cryptology Division, 18 June 1996. The idea of E-cash has been around since the 1990s or early 2000s, it just became more important with the financial crisis. Many of the companies in the S&P 500 today weren’t around 20 or 30 years ago, and many of them may not be around 20 or 30 years from now. By contrast, computer protocols get stronger and continuously improve with the passage of time.

When the internet and email first came out, very few people were using it because they did not understand it. Attaching a file or a picture was a very slow process and there were dial-up modems that were very slow. When Wi-Fi first came out, very few people had it, and it was hard to find but now if you to go into a restaurant or a hotel and you can access it easily. As the blockchain protocol becomes more pervasive and continuously improved, it will create what’s called the network effect, which is a concept that is addressed by Geoffrey Parker in his book “Platform Revolution.” Essentially, it means that the more nodes there are in the network, the more valuable it is. In the same way that TCPIP or Wi-Fi became increasingly valuable while the cost approached zero. The blockchain protocol will increase in effectiveness, efficiency and the cost will reach zero.

What Is A Bitcoin?

Bitcoin can be described as a virtual currency that runs off of a protocol called the blockchain and distributed ledger.

What Is Distributed Ledger Or DLT?

The distributed ledger can be thought of as a ledger in your checkbook that creates all of the buys and sells but is distributed over millions of computers. As a result, everyone keeps a continuously reconciled record of every transaction, every wallet address and every place where bitcoin goes until certain conditions are met and the block is sealed.

How Is a Blockchain Defined?

The blockchain is how all of these transactions are verified and authenticated by the distributed ledger, as well as squared up and locked in time forever in certain blocks. Once a series of transactions have been authenticated, the block is sealed, which essentially creates an audit trail.

What Is an Unalterable, Mutable Audit Trade Consensus or A Wallet?

The wallet is where you actually store your Bitcoin. There is a hardware wallet and a paper wallet. You can literally print a 256-string character on a piece of paper, and that would be your Bitcoin paper wallet. You can also have your Bitcoin stored in an exchange where it would be subject to loss or being hacked. Alternatively, you could buy a hardware wallet, download your Bitcoin into a device and keep it locked in a safe. Larger, more institutional players in the space such as Xapo and Coinbase are starting custody operations, whereby they're storing Bitcoin on computers that have never been connected to the internet, and then storing those computers in highly secured vaults (known as cold storage).

What Is a Token from a Regulatory Perspective?

The tokens have various characteristics and attributes that don't necessarily fit squarely within the existing regulatory regime. For example, Bitcoin is referred to as a coin, but it's not physically a coin.; Iit can be used as a store of value or as a medium of exchange. From a regulatory perspective, a token is defined by the ways in which it is used. The SEC said if it has the legal attributes of a security, then it is a security. However, there is a lack of clarity in regard to what specifically is defined as a cryptocurrency. The current Chairman of the SEC, Jay Clayton, has said that he's never seen an initial coin offering (ICO) doesn't have the hallmarks of a security. So, there are different regulators in different jurisdictions who assign different properties to the same crypto assets. I think that people who are in the business understand that there are certain currencies that are essentially currency coins, such as Litecoin, Bitcoin Cash and Bitcoin.

How Can Cryptocurrency Be Mined?

Mining is the process of creating additional cryptocurrency. There will never be more than 21 million Bitcoins produced by the formula itself, and we know that because we can look at the code. Even though people can create different versions of Bitcoin, such as Bitcoin Cash or Bitcoin Gold, the Bitcoin itself will never have more than 21 million units. Some other crypto assets can be mined without limit in the same way that the US dollar or other fiat currencies can be produced without limit.

The bottom-line is that the whole system, and Bitcoin in particular, is maintained and incentivized in two ways. One way is through mining where people who continuously reconcile the distributed ledger are compensated through the creation of new Bitcoins. Once all the Bitcoins are created, they'll be able to maintain the system through fees that they charge.

Mining itself involves solving a mathematical puzzle, which is only solved by finding a nonce that delivers a desirable hash in order to award new bitcoins. There has to be a public key, a private key and the distributed ledger; this is the unalterable, immutable ledger of all the transactions that occur and are authenticated through cryptography. The way that it's authenticated through cryptography is by the miners finding the key to the puzzle that solves the mathematical formula that seals the block and creates a new coin base.

Who Are Bigger and More Serious Players in Crypto Token Space?

There are not any major, publicly traded companies in the crypto token space as this is being written in April

2018. There are some tech-based companies that are getting into blockchain technology, but the majority of companies that are actively involved in mining and exchanging crypto assets are privately held companies. However, Goldman Sachs recently bought Poloniex, which is one of the exchanges. Fidelity Investments (which is not publicly traded) also recently added the ability to display Bitcoin, Litecoin and Ethereum through a partnership with Coinbase, but as of yet, there are very few other major, publicly traded companies in the space. This creates a tremendous opportunity and a first mover advantage for any publicly traded financial services company willing to embrace this technology.

What Is an ICO Or Initial Coin Offering from Regulatory Perspective?

From the SEC's perspective, initial coin offerings (ICOs) are interesting, to say the least. An ICO is the launch of an asset. In certain circumstances it may not be dissimilar from an initial public offering, except that there are some very unique and technical aspects of it. For example, pre-mining often occurs when the people who developed the coin pre-mine create significant amounts of the token for themselves. China, India and South Korea have made comments about banning ICOs. As of yet, the SEC has only shut down those ICOs which were fraudulent.

Holding an ICO involves setting up a webpage, a whitepaper and announcing the price. In some cases, bounties are utilized, which means that people are compensated with the pre-issue tokens for developing interest in the coin through various social media platforms. When the coin is released, it usually trades in the secondary market on the major exchanges (Poloinex, Kraken, Binance, etc.). That process is very similar to an initial public offering, and the SEC (especially in the DAO case) has said that certain ICOs have certain hallmarks of securities. So, many of the initial coin offerings are essentially tokenized securities offerings, albeit unregistered and non-exempt securities offerings. Many people feel that ICOs are truly utility tokens and not securities. That is, ICO utility tokens that can only be used on a certain platform and analogous to video arcades that only use proprietary tokens instead of quarters, but the concern of the SEC is that ICOs are being used to issue securities in circumvention of the regulatory requirements.

What Is the Background on The Controversial Crowdfunding?

The crowdfunding rules really started with the Jumpstart our Business Startups Act ("JOBS Act"). Despite concerns of the SEC, congress changed the number of shareholders that a company could have. It used to be limited to 500 shareholders before they had to go public, and it now includes 2,000 shareholders, excluding employees. That led to a situation where private companies were raising tens or even hundreds of millions of dollars in the private market before going public, if at all. Conversely, the actual initial public offerings were few and far between because of other regulations, specifically since the adoption of Sarbanes-Oxley, and the increasingly onerous audit requirements.

For all practical purposes, the current reality of the market place is that companies are staying private longer. They have what they call "unicorn companies," where they're developing multi-billion-dollar valuations. A lot of these companies are household names, such as Uber, Lyft, DocuSign, and Airbnb, and many people don't even realize that they are not public.

In one sense, the whole ICO phenomenon may be an unintended consequence of liberalizing the crowdfunding rules, but that's really in reaction to the realities of the market where excessive regulation has caused a drought of IPOs. Meanwhile, hedge fund managers need the returns, so they're going into the private market. So, the ICOs were just the logical result of what was already occurring with or without cryptocurrency, and well before 2017. This is a very important point.

Recent ICOs That Were Banned in China, South Korea and on Facebook?

As a corporation, Facebook may have made what was a very unwise decision to ban advertisements for ICOs. China is still essentially a planned economy in which capital controls have been imposed, so it's not too surprising that they would try to reign in ICOs. However, there is a rumor that South Korea was going to ban ICOs. The bottom line is that ICOs can't really be banned.

Countries in the Middle East tried to block the internet and ban communications with the outside world, but at the end of the day, they couldn't really do it. When

China tried to crack down on Bitcoin and the Bitcoin exchanges, they all just moved to Hong Kong and Singapore. Likewise, the crypto assets themselves don't really require a centralized exchange to trade hands; you can literally keep crypto assets in your smart phone and do a peer-to-peer exchange with someone else. The more regulators attempt to clamp down on this, the more it will stifle innovation, and ultimately it won't work. People always want what they can't have.

Difference Between ICOs and TSOs

Chairman Clayton said that he didn't really see an ICO that had a lot of the hallmarks of a securities offering. Unless they're registered or exempt from registration, tokenized securities offerings (TCOs) are unregistered, non-exempt securities offerings. This means that people who are issuing securities without going through the formalities of registering those securities with the SEC still have to abide by specific legal requirements in order to maintain the exemption from registration in the USA. For example, in a registration D offering, you have to file a Form D with the SEC before it can be sold to Accredited

Investors. This is so that people who don't have the wherewithal to take the financial risks of investing in risky and speculative securities aren't exposed to the risk of loss.

The primary difference between an ICO and a TSO is really very subjective. ICOs that are designed based on promised returns and on the effort of others are essentially securities. If they're not offered the right way, then they're unregistered, non-exempt securities offerings. As a result, many exchanges will not list (and may even de-list) those tokens, and so they will have no liquidity. If you are buying something that looks like a security in the United States and it's not properly registered, exempt or disclosed as a security, then you might have a very difficult time selling it. It is essentially a "toxic token", which potentially gets kicked off an exchange and would become illiquid for all practical purposes.

There was a Morgan Stanley representative who allegedly got involved in developing a Swiss Foundation called Tezos without disclosing it to Morgan Stanley. This representative and his wife raised over one billion dollars from what were essentially unregistered and non-exempt securities, and they sold well over $200 million of them to US citizens in the US. Not too surprisingly, it did not work out too well.

Allegedly, he made a lot of representations about how developed the platform or the network was and what affiliations he had with Deloitte and other established companies. A lot of the early founders of the company cashed out or took a disproportionate number of the shares. So, there was a massive loss for anyone who invested in it at a later stage. As of today, there are four class action lawsuits against Tezos.

I think it's unfortunate that this happened because the SEC has limited resources; they only have civil jurisdiction, and it's very hard for them to ascertain the nature of new, innovative and revolutionary technology. If the regulators clamp down on things that could make life better and provide a benefit to the public, that's not a good thing.

Conversely, there is no shortage of lawyers in the US, and class action lawsuits and the civil legal system creates a kind of self-policing mechanism whereby the civil lawsuits encourage businesspeople to be very honest in their dealings. That's not to say that there are not regulatory requirements in place right now. If people were driving 100 miles an hour and not getting speeding tickets, it wouldn't mean that the speed limit is 100 miles an hour; it would just mean that the law is not being enforced.

Clearance, Settlement and Financial Applications of Blockchain Technology

At a minimum, it takes two days to clear and settle a simple securities transaction. So, if you were to go to your broker and buy one hundred shares of Apple or Google, it would take two days before the money and the share would actually change hands.

A transaction with Bitcoin, by contrast (which is probably one of the slower crypto assets), takes 10 minutes at most. Unlimited amounts of money can now be moved in real time, or in less than 10 minutes. In addition, there's no chance that someone can make a mistake or that the trade won't match because it is all continuously reconciled on the distributed ledger.

CHAPTER 2

HIGH-LEVEL OVERVIEW OF US FINANCIAL AND SECURITIES REGULATIONS

Role of US Banks, Broker Dealers and Advisers in Crypto Assets

Credit in United States is created by banks. When you go into a bank and take out a loan, they're creating that money; that's how fractional reserve banking works. If you went into the bank and took out money, the bank only has on deposit a very, very small fraction of actual cash compared to what is on their balance sheet or what is on a client's statement. For all practical purposes, the fiat currency of the dollar is a virtual currency that exists mostly in numbers blinking on computers. There aren't that many dollars that are physically in circulation.

Before the 1929 market crash, there was no real distinction between banks and broker dealers. Between 1933 and approximately 2008, Banks and Brokerage Firms were separate and distinct. Increasingly, there is less of a distinction because of the repeal of The Glass–Steagall legislation, essentially four provisions of the U.S.A Banking Act of 1933 separating commercial and investment banking. Broker dealers are different from banks because they either buy or sell securities on an agency basis or on a principal basis. So, if a real estate agent helps you buy a house, you know that the house the agent is selling you is not their house. Instead, they're working in an agency capacity for whoever does owns that house, and they're earning commission. Let's say that the broker dealer you go to buys a hundred shares of Apple and they have an inventory (much like a car dealer has an inventory of cars); they can sell you those shares out of inventory, marking them up from whatever their cost was. Conversely, they could just buy them from another market participant in an agency transaction. That's the difference between a Broker (that acts as an agent) and a Dealer (that has an inventory). The capacity of broker or dealer is disclosed on the confirmation to the customer.

In the United States, broker dealers are regulated by the Financial Industry National Regulatory Authority ("FINRA"), which is basically a self-regulatory organization ("SRO") or an association comprised of registered broker dealers. FINRA is under the jurisdiction of the Securities & Exchange Commission, which ultimately decides whether or not someone can be in the financial business. FINRA also sets the rules for the educational requirements for brokers and decides who can become a broker dealer or a Registered Representative of a Broker-Dealer.

This is important, because many young people in the ICO space seem to be unaware of the existence of FINRA. It may not be malfeasance on their part; I think a lot of them really don't know. There is also the Commodities Futures Trading Commission, which regulates trading in more traditional commodities, such as corn, wheat and oil.

However, somewhere along the way they asserted jurisdiction over Bitcoin. Banks, broker dealers, and commodities future merchants are all ultimately regulated by the Federal Government because of the use of the mail, telephone or the internet, or other means and instrumentalities of interstate commerce, as are Investment Advisors and Investment Companies (Mutual Funds).

Unlike a broker dealer who charges a commission or a markup on a per-transaction basis, an investment advisor will manage a portfolio of stocks and bonds for a percentage of assets under management (AUM). If you go to a Morgan Stanley or Fidelity, they will manage your portfolio for a fee of about one to three percent of the assets. So, if you had a one-million-dollar portfolio and they were charging you one percent every year, then they would earn $10,000 for managing your stock portfolio. Many broker dealers have also become registered as investment advisors so that they can charge customers the percentage or “wrap” fee instead of a commission because it provides a more reliable and steady stream of income for them.

There is another very popular vehicle called a mutual fund, which is technically an investment vehicle. A registered investment company or mutual fund is a special type of investment vehicle registered with the SEC under the Investment Company Act of 1940, whereby the vehicle is set up so that shares can be bought. Then, a registered investment advisor manages the pool for its stated purpose for anyone who wants to buy shares in it. So, you can buy a technology mutual fund, a balanced mutual fund, or a bond mutual fund, and the investment advisor would have as the client just that fund. They would manage it in accordance with the investment objectives stated in the prospectus, and you would own shares of the Fund.

There are a few financial entities that have tried to set up mutual funds in an exchange traded fund (ETF) with Bitcoin. So far, the SEC has not approved a Bitcoin ETF. Due to market volatility and the lack of transparency in the underlying Bitcoin market, the SEC decided that it was not appropriate to approve a Bitcoin ETF. There have been other investment advisors, such as Graybar, that have created trusts that are only available to Accredited Investors, and that's a very specific standard. It means that you have a net worth of one million dollars, exclusive of your primary residences, or that you made $200,000 in the previous year and have the expectation to make that much or more in the coming year, or $300,000 jointly with a spouse. Right now, these vehicles are only available to Accredited Investors, as is also the case with Reg D (Rule 506) Private Securities Transactions, or ICO that are securities tokens.

Although there are exceptions, investment advisors are required to have their assets stored with a qualified custodian. The Investment Advisor's Act (under 17 CFR 206(4)-2) defines a custodian as a bank, broker dealer, futures merchant or foreign financial institution that's in the customary business of holding client assets in segregated accounts. As a practical matter, it's really hard to find any institution that meets this definition of qualified custodian that will hold Bitcoins (or any other type of crypto).

The irony is that the distributed ledger is probably more secure than if physical certificates were held in physical formats, such as in a bank vault. For all practical purposes and from a securities law standpoint, crypto currencies are uncertificated securities being kept on something like an Excel spreadsheet. For a number of reasons, that's not a valid "control location" for broker dealers or advisors.

Role of Money Services, Businesses, Payday Lenders, Check-Cashing and International Wires in This Space

Many crypto exchanges have to register as money services businesses if they're exchanging money for other forms of assets, such as Bitcoin. This is especially true if they are exchanging across state lines, or into or out of the US. For example, Coinbase, Kraken and Ripple are holders of the New York BitLicense. They may be registered in all 50 states as money services businesses or money transmitters. You would normally think of this as a non-bank financial institution, such as Western Union or MoneyGram, which a lot of persons without formal banking relationship must use to transmit money to relatives and friends both within and without the USA. People who are a part of the unbanked sector often don't have enough money to have a Bank account or are blacklisted by financial institutions.

Foreign workers who are in the US on an undocumented basis sometimes rely on some of these services in order to transmit money back to their home countries for remittances. Obviously, there is a huge potential (not coincidentally) for money laundering in those channels. In any event, the more traditional check-cashing and money-wiring services charge significant fees for converting and exchanging money or transmitting money across borders.

Increasingly, the crypto asset class creates almost immediate, simultaneous transmittal of value across borders. There is one application that is very popular in the Philippines called ABRA. With ABRA, there are agents on the ground that will exchange dollars for virtual currency, put it in the application and then transmit it anywhere in the world. On the one hand, a lot of the more traditional historic providers in the space (the payday lenders, check cashiers, foreign money wire services, etc.) may go out of business because of this technology. However, many of the technology providers will have to register as money services businesses.

BitLicense Regulations

Ben Lawsky, as the head of the Department of Financial Institutions in New York around the time that Bitcoin came out, decided to create the first Bitcoin license, which is called the BitLicense. I believe that his intent was to protect the public against the new, untested and scary concept of Bitcoin, but BitLicense has had two consequences. One is that it stifled innovation; I don't think that it's coincidental that business flourished in San Francisco and not in New York City. In addition, no one really obtained the license because the fee for it is $5,000; Coinbase, Kraken, Ripple and one other exchange have gotten the license. I don't think there was any ulterior motive on his part; I think he really truly did it because he cared about people and wanted to protect the public, but this is one potential example of where regulation can stifle innovation.

Some Issues and Challenges with Regulation

The regulatory framework presupposes that there are geographic restrictions, centralized exchanges and physical stock certificates. Simply put, that's no longer the case. By nature, regulators are reactive. They're basically trying to react with very limited resources after calamity has already struck. Until very recently, the crypto community was self-policing because it predominantly involved people with programming experience and skills.

CHAPTER 3

INITIAL COIN OFFERINGS

Master Coin Inception: A Platform for Creating and Trading Custom Digital Assets in Currencies

Master Coin Inception is built on Bitcoin's blockchain technology, but the more recent trend is moving toward Ethereum's ERC20 protocol. The ERC20 protocol was essentially the first ICO where you could create your own token, whether it was shares in a company or a utility token based on the Bitcoin blockchain, which is why it was transformative.

What Does the Most Recent SEC DAO Report Say About ICOs?

In the Wall Street Journal on January 24, 2018 and in his testimony on February 6, 2018 to the Finance Committee of Congress, Chairman Clayton stressed that determining whether ICOs could be securities is a matter of examining the specific facts and circumstances. In securities case law, there is something called the Howe Test, which goes into certain elements. It has a lot to do with the mindset of people in the space; a lot of them are programmers, and as such they just use it as a bright line test, and it's really not. The Cardozo Law School Blockchain Project issued a whitepaper titled "Not so Fast–SAFT" explores that idea.

In addition to Chairman Clayton, the DAO report said that determining whether ICOs could be securities is a matter of examining the specific facts and circumstances of each case. The DAO was created by a German company called Slock.it, which was trying to create a decentralized venture capital fund. It is a long and complicated story, but essentially the company got hacked and the money was stolen. As a result, Ethereum (which is not actually a decentralized crypto asset, but a centralized one) affected a hard fork to recover the money. They disclosed all of this to the SEC, and the SEC wrote the DAO as a warning to the industry.

The SEC has issued a number of investor bulletins, such as the pre-Facebook IPO scams that labeled crypto as a scam. The SEC which is the most well-known securities regulator in the world, very selectively goes after persons engaged in frauds and scams in the space, although it is not clear whether this is by design and an attempt to not stifle innovation, or rather a lack of resources. In Chairman Clayton's testimony to Congress, he said, "I have yet to see an ICO that doesn't have a sufficient number of hallmarks of a security." That's a little bit shocking because people who were issuing those ICOs thought that they were tokens because of something called the SAFT test, which I will go into further.

There was a major Silicon Valley law firm that had many clients who were very big in the tech space and here in California. Somehow, the VC industry got the idea that if they used a certain methodology called SAFT, then they could issue what they called pre-consumptive tokens, and that the accredited investors who bought them would be taking the enterprise risk. Therefore, almost by definition, they would be immune from being considered securities. That fell apart very recently.

On October 2, 2017, the Cardozo Law School Blockchain Project published a paper called “Not So Fast–SAFT.” Their criticism of the SAFT was that it blurs the analysis of what is a security, creates an early class of equity investors, and increases the risk that something would be considered a security by emphasizing the speculative nature. Their concerns were fourfold. The first is that there is no bright line test. The second is that it emphasizes the speculative nature of the ICOs, which increases the likelihood that they actually would be considered securities. Their third concern was that the presale to Accredited Investors under the guise of them taking on the enterprise risk was really a red herring. The most significant criticism is that the SAFT protocol is harming customers by creating a proliferation of ICOs that were actually securities, a concern is shared by regulators.

The law firm that most heavily promoted this indicated that it was from their clients, and they had even expressed concerns about it, and it wasn’t until more recently that there has been more criticism.

CHAPTER 4

ANTI-MONEY LAUNDERING

A Brief Overview of AML and Sanctions Framework

Money laundering is the process of trying to enter the proceeds from illegal activity into a financial system. There is also counter-terrorism finance (CTF), which basically means using money for terroristic activities or purposes. There are also sanctions, which apply to certain countries as a matter of foreign policy. For example, nothing of value can be traded or exchanged between the U.S. and the occupied Crimea region of the Ukraine, Iran or North

Korea. All financial institutions have requirements under the Banking Secrecy Act to report suspicious activities, abide by the sanctions, and monitor, prevent and detect money laundering or terrorist financing.

An exchange could be set up anywhere in the world, and crypto could be traded with no friction and at virtually no cost. Allowing crypto exchanges with sanctioned countries or individuals poses a huge risk for the people involved who may potentially face criminal liability. In addition, it doesn't make the world a safer place. The crypto space is increasingly causing concern for law enforcement agencies, federal regulators and people who are in the profession. The irony is that the crypto space will ultimately help win the war on cash, because whether people are dealing in drugs, evading taxes or financing terrorism, cash is the easiest and most anonymous way to finance things. Crypto creates the potential for audit trails that can never be deleted or altered.

How Does the History of The Silk Road Impact the Crypto-Blockchain Space?

From a reputational standpoint, the impact of the Silk Road on the crypto-blockchain space was really negative. An individual from Texas named Ross Ulbricht ran a website called Silk Road for selling illegal items, such as narcotics and weapons. Ultimately, Ulbricht was apprehended, and he is currently serving a life sentence. The Silk Road definitely created a preconceived notion of Bitcoin and crypto as being shady.

What About the Recent Happenings Against North Korea In the Bitcoin Area?

North Korea has counterfeited the dollar for a long time, so I am sure that they've stolen Bitcoin or are mining it. However, it does not follow logically that Bitcoin is bad just because North Korea is mining or stealing it.

Common Ponzi Schemes in ICO Arena

BitConnectCoin (BCC) is one of the most obvious Ponzi schemes in the ICO arena. There are probably a lot more because there are literally thousands of different crypto tokens and crypto assets.

What Is the Office of Foreign Asset Control's Take on ICOs?

ICOs were very recently outlawed in certain foreign jurisdictions. In particular, Venezuela created its own virtual currency called the Petro. The Petro was created in response to the US having prohibited trade with Venezuela. Despite the natural resources in Venezuela, the country has starved for cash because of rampant inflation, or devaluing its currency at an even faster rate than Federal Reserve Notes or Euros. On January 19, the OFAC warned against buying Petro.

In this day and age with the internet, I don't really know how the OFAC can prevent people from buying Petros, because anyone can just sign up on a Singapore exchange and buy them. Doing so, however, would be a violation of a US sanction law, which is essentially trading with the enemy – the illegitimate government of Venezuela. So, it does potentially expose people to personal criminal liability. That's just a very recent example of how the technology and the emerging asset classes are conflicting with the more traditional regulatory regimes and laws. Obviously, a crypto currency backed by a temporarily, illegitimate and corrupt regime isn't going to be a great investment long term, so people would be wise to avoid it anyway.

What About the GDPR And Privacy?

There needs to be a whole book written on the General Data Protection Regulation (GDPR) and privacy. The GDPR will become effective on May 25, 2018, and is another great example of the conflict between the old world and the new world. It's appears to be geared towards Facebook and Google. Anyone who has ever searched for something on the internet and was then subject to a barrage of ads for whatever they were looking at will understand this. The law seems to say that your personal data is yours, and that your preferences in terms of music, or any identifiable information about you is owned by you. As a result, companies may be required to explicitly ask for your consent before they utilize that information from you. You have the right to be forgotten or erased.

For example, if you are a client of one of the large music services (Google, Spotify or Facebook), then you can have all of your history deleted or transferred to another service provider. The large companies are scrambling to comply with this. The penalties are severe, at four percent of global revenue, or $60,000 a day. However, there are hundreds of exchanges that probably aren't even aware of this.

The GDPR is another example of how the law presupposes that if you're within the borders of the European Union, these laws protect you. Among other things, these laws require companies to obtain consent before collecting personal information, and allow an individual the right to be forgotten or to obtain erasure of their data. Despite this, people are setting up websites and trading crypto worldwide without any regard for geographic restrictions or borders.

CHAPTER 5

HOW TO SPOT A SCAM ICO?

What to Look Out For?

If an ICO seems too good to be true, then it probably is. There are numerous websites that rate ICOs, such as ICO Ratings and Smith & Crown. When looking to invest in an ICO, you should put in the same amount of diligence that you would for a traditional investment. The biggest difference is that ICOs are more analogous to a venture capital investment; one might work out extremely well by orders of magnitude, but you might lose your entire investment in 8 or 9 out of 10.

The first thing that people need to understand is that ICOs are extremely speculative, so they should not invest more than they can comfortably afford to lose. It's also important for people to look at an ICO's whitepaper; if it is written in broken English, if the biographies don't make sense, or if they're in some part of the world where you can't reasonably verify that the people are who they say they are, then that ICO should be viewed as an even greater risk. A significant number of the ICOs that are out there may be expected to become worthless over time. However, having the intention to do something meaningful with the money and never having the intention to do anything except take off with the money are two different things.

There are online courses and books on how to invest in ICOs. Whether you're investing in an initial coin offering that hasn't been public yet or one that already trades on the secondary exchange, it's important to really understand the monetary policy of how many tokens will be issued. You should know whether or not there's a hard cap on the limit of the tokens that will be issued and what the monetary policy is for issuing tokens. Bitcoin, for example, has a hard cap of 21 million. Ethereum doesn't have a hard cap, but there are certain monetary policies for how fast they can be created.

The regulatory service and criminal liability issues that an ICO might face are similar to those of many others. As previously mentioned, the individuals from Tezos have four class action lawsuits against them. The SEC has worked with federal and local law enforcement and has filed criminal charges in other cases. The SEC has no authority to file criminal charges but works with federal and local prosecutors to do so. Unfortunately there are a lot of old school fraudsters in the ICO space.

Measures You Can Take to Ensure You Are Not Getting Involved in An ICO Scam

In order to ensure that you are not getting involved in an ICO scam, you have to read the whitepaper, ensure that it makes sense, and verify that the people are who they say they are, at least to the extent that you can. There are excellent books and even YouTube videos on how to detect ICO scams.

What Can You Tell Me About Tezos?

There are four class action lawsuits against Tezos, and you can read the specific complaints that were filed for each. Tezos claimed to have affiliations with Deloitte and other more established entities when they in fact did not, but this didn't stop them from raising over $230 million dollars in the pre-sale. If anyone had exercised any due diligence in researching Tezos, then they would have found that it didn't make sense. With a lot of ICOs, pre-mining is common, and there are many insiders, early investors and venture capitalists who take disproportionate positions. Before investing in an ICO, it is important to understand the monetary policy, the hard cap of the tokens and the economics of the offering.

What Regulatory Civil and Criminal Liability Issues Might A Scam ICO Face?

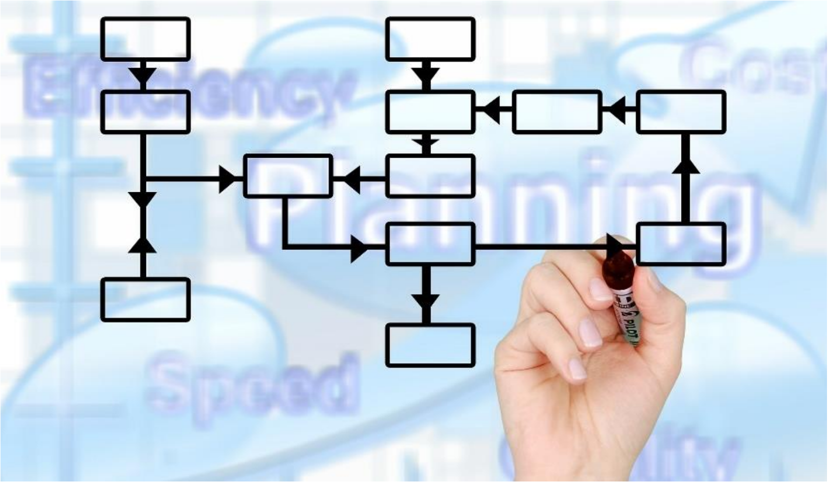
An ICO scam may face civil liability issues. Unless the offering is structured very carefully, it would give rise to class action lawsuits, which is probably the most effective way of policing the industry. If you do a securities offering properly, you have a lot of protections. Even if it's a regulation D offering that's only offered to Accredited Investors (high net worth individuals), there's an understanding that the people who are investing are sophisticated enough to understand the risks and limitations. There are usually lawyers involved to draft voluminous disclosure documents explaining exactly what the funds will be used for and the associated risks. For both the investors and the issuers in more traditional securities, the rules of the road are very clear. In ICO cases in the US, however, there can also be civil liability. Unfortunately, it looks increasingly unlikely for purchasers of Tesoz to see a return of any of their investment, never mind any return on investment, except through class action lawsuits and the plaintiff's bar.

If you are in this business and you want to issue an ICO, you stand the chance of becoming permanently barred from participation in the securities business if you don't do it correctly. You could become statutorily disqualified by the SEC or FINRA, which means that you would never be able to set up a broker-dealer or become a registered representative, and prohibited from serving as a manager in a public company. If you're intentionally and deliberately defrauding people and saying things that you know are not true, then that could give rise to criminal liability. Unfortunately, there have been criminal charges filed already on some ICOs.

Failing to properly conduct a securities offering would give rise to a class action lawsuit, which we have seen with Tezos. A class action lawsuit creates a huge incentive for a plaintiff's attorney to work on a contingency fee basis for the case, because the stakes are much higher. Aside from self-governance and regulatory (or criminal) liability, this will be the primary market mechanism by which bad actors are punished and the integrity of the system enforced.

CHAPTER 6

ASSET MANAGEMENT



How Do Non-Co-Related Asset Classes and Modern Portfolio Theory Relate to Crypto Assets?

The concept of investing in non-correlated asset classes is a core principle of modern portfolio theory ("MPT"), has been around since 1952. Adding, or finding, a truly non-correlated asset is analogous to finding the Holy Grail of MPT. An asset class that's not correlated to the market and doesn't have a direct correlation with the overall direction of the broader market can serve the purpose of lessening the risk of your overall portfolio and creating greater upside potential. In other words a hedge. I believe that the majority of tokens won’t exist in the future, but the ones that succeed could have a very significant impact on people’s overall portfolios. This is similar to the way that 8-9 out of 10 Venture Capital investments don’t work out, but that one that does can more than make up for the losses. Smart wealth mangers are diversifying into crypto, but in a very measured and careful way.

What Is Indexing as It Relates to Managing Crypto Assets?

Indexing has been very popular for about two decades, but there are risks associated with it. Most of the largest companies that existed 40 or 50 years ago no longer exist. Indexing involves taking the size of a company based on its market capitalization (which is the number of shares in the market multiplied by the price of the share as a proportion of the whole market) and investing money in the stock market in proportion to how dominant certain companies are at a particular time. In other words, investing in accordance with a weighted average of an index, which is in return based on the market capitalization, that is what percentage each companies value is as a percent of the Index.

For example, if Apple, Google and Facebook account for 10 percent of the market, then 10 percent of the assets that you put into an index fund would go into those stocks, irrespective of the earnings outlook, or the results of a fundamental analysis. The more money that goes into indexing, the more it works, meaning the dominant players in the market gain more in terms of their stock price and market domination, in as much as they have purchase orders disproportionate to fundamentals because of recent valuations – it's a self-fulfilling prophecy.

In the crypto space, indexing is similar because there is Bitcoin dominance. Bitcoin is the dominant asset class in the crypto space because it's the oldest and largest. So, if anyone's going to invest in a crypto asset, they'll invest in Bitcoin. Aside from the fact that indexing worked despite the risks and reservations about it, Bitcoin has become more efficient and effective and has continuously improved with time. There is no central management of Bitcoin. As a result, they're not going to have any kind of event where someone goes haywire and the stock goes down. This makes it more sustainable than traditional assets.

What Is Order Routing and Arbitrage as It Relates to Trading Crypto Assets?

Arbitrage allows for something to be purchased in one market and simultaneously sold in another. For example, if you had a stock that was trading for $9 in one market and $10 in another, you would buy at $9 and sell at $10 on two different exchanges at the same point in time. You would be affecting a riskless simultaneous transaction and getting more than a 10 percent return each time.

Bitcoin has even larger spreads because the centralized exchanges are geographically few and far between, meaning that you can literally have percentage points between the bid and asking value on Bitcoin or other crypto assets. The more obscure the crypto asset, the more likely it is to be traded at significantly different prices. This is because of liquidity and the number of exchanges. There are increasing numbers of hedge funds and arbitrage strategies trading the price differentials of crypto assets without taking on long only asset risk. Once there is a consolidated order book, the arbitrage opportunities may disappear.

What About Early Adoption in The Space, And the Platform Evolution? How Will the Network Affect the Success of Each Token?

With any new technology- whether it's a fax machine, telephone, or Wi-Fi- the concept of the network effect applies. In essence, it means that once a certain type of technology becomes more popular, it becomes pervasive to the point that people are expected to have it.

As blockchain technology and cryptocurrency becomes more and more popular, it too will have the network effect, and there will be fewer and fewer people who do not use it. In the same way that establishments might only take credit cards because they don't want to be subject to the theft of cash, there may come a time eventually when securities settlement will only be done in Ethereum, and when establishments will only accept payments in Bitcoin.

What Likely Outcomes Can We Expect to See?

There are three things that can happen in the crypto space, and I don't think they're mutually exclusive. In fact, I think that all three things may occur simultaneously: self-governance, civil litigation and regulatory reform. For one, I think trade associations or organizations will try to set standards and establish codes of ethics to abide by. That would be the ideal situation. Simultaneously, there will be more class action lawsuits and civil litigation, due to the fact that more people are being harmed in this space. We've already seen law enforcement agencies and regulatory authorities worldwide respond. The outcome that I'd most like to see is the creation of standards and self-policing, but simultaneously you will see increased civil litigation and regulatory enforcement as bad actors get into the space until the industry self-governance is up to par.

CHAPTER 7

CONCLUSION

The main point that I want to make is that the asset class is a game changer in terms of how it's going to change virtually every industry, but especially financial services. This is going to do to the financial services what the internet did to the news business, and what Netflix did to Blockbuster. I don't know when the existing current financial establishment will come on board, but people and young people especially have already embraced it and there is already a proof of concept.

The crypto space is going to unleash free market capitalism worldwide, which is the best path to prosperity. In the same way that the internet and cellphones allow people to mitigate their remote locations, lack of electricity or lack of infrastructure, crypto is going to allow people access to money. This is going to have a very dramatic impact on the world in terms of financial inclusion. The bottom line is that the regulatory infrastructure needs to be tweaked a little bit. Whether or not people understand the technology, they need to understand that it will have a very transformative effect; crypto currencies are going to bring a new world order and a new world of possibilities. It will create a future we cannot even imagine. The governments and financial institutions which are the earliest to embrace this will most likely be the biggest beneficiaries.

WHAT IS THE NEXT STEP?

I am very grateful for your having read my book.

Please contact me if you have any questions, or if there is any way I can be assistance to you.

Thank you.

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CRYPTO ASSET & ICO GOVERNANCE, RISK MANAGEMENT & COMPLIANCE

Concise Guidebook for Financial and Legal Service Providers to The Emerging Crypto Asset Class

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